To: Christoph Goss[christoph.goss@deereault.com]; Matt Francis[m.francis@erllc.com]

**Cc:** Karl Fritz[karl.fritz@deereault.com]

From: Way, Steven

**Sent:** Sat 8/9/2014 7:41:43 PM

**Subject:** Re: Gold King changes - arch dimensions

Thank you Christoph.

Steve

From: Christoph Goss <christoph.goss@deereault.com>

Sent: Friday, August 8, 2014 9:05:33 PM

To: Matt Francis; Way, Steven

Cc: Karl Fritz

Subject: RE: Gold King changes - arch dimensions

Hi Steve and Matt

## Attorney Client/Ex. 5

Feel free to contact Karl or me with any questions or comments.

Christoph

----Original Message-----

From: Matt Francis [mailto:m.francis@erllc.com]

Sent: Monday, August 04, 2014 4:42 PM

To: Way, Steven; Christoph Goss

Subject: RE: Gold King changes - arch dimensions

[cid:\_\_sdcard\_EmailTempImage\_71218524283622014-08-04-16-41-11\_png@sec.galaxytab]

Sent via the Samsung Galaxy Note® 3, an AT&T 4G LTE smartphone

----- Original message -----

From: "Way, Steven"

Date:08/04/2014 4:36 PM (GMT-07:00)

To: Christoph Goss Cc: Matt Francis

Subject: RE: Gold King changes - arch dimensions

Christoph here is a photo and as we discussed, the 11' 3" measurement was about 1/3 up from the base/foot.

Steve

Steven Way

Federal On-Scene Coordinator Emergency Response Unit US EPA - Region 8 1595 Wynkoop Street Denver, CO 80202

Office: 303-312-6723

----Original Message----

From: Christoph Goss [mailto:christoph.goss@deereault.com]

Sent: Monday, August 04, 2014 4:08 PM

To: Matt Francis; Way, Steven

Cc: Karl Fritz

Subject: RE: Gold King changes

Importance: High

## Gentlemen

I think that we are getting closer to solving the geometric mystery of the Gold King Arches. Attached is a drawing showing a modified horseshoe set. Instead of a horseshow with straight legs or a semi-circle, it consists of two constant radius (i.e. circular beams) with the bottom cut off and the foot plate welded at an angle to the web and flange. As you can see on the dimension lines, it agrees with your previous measurements:

155" OD arch length 127" OD chord 9' wide bottom 11'3" diameter

If the 10' height your mention was measured as shown on the drawing, we are good to go.

Please let me know if this drawing agrees with what you saw last week. Once we have that confirmed, Karl can recalculate the allowable loads.

Karl: please go ahead with preparing a bolt spec as requested below. I think it should cover steel type, threading, and min/max torque along with whatever you think is appropriate.

## Christoph

----Original Message-----

From: Matt Francis [mailto:m.francis@erllc.com]

Sent: Thursday, July 31, 2014 3:14 PM

To: Christoph Goss Cc: Way, Steven

Subject: Gold King changes

At the site visit today a couple of things came up for you to adress.

- 1) we put a couple of arch set sections together and measured actual dimensions. The have a diameter of 11'3", are 10' high and 9' wide at the bottom. All measurements are inside. This probably changes your design limitations, so please revise.
- 2) bidders requested a bolt spec

3) bidders requested a volume for concrete used in footers (and maybe this changes due to #1?)

We requested they submit follow up questions as soon as possible. I'll fwd them to you as they artive.

Thanks Matt

Sent via the Samsung Galaxy Note® 3, an AT&T 4G LTE smartphone

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